

**REMARKS****Claim Objections**

The examiner objects to the numbering of the claims in the amendment filed on May 15, 2006. In response, the numbering of the claims has been corrected in the Listing of Claims submitted herewith, to address examiner's comments. Namely, the previously introduced claims 60 and 61 are renumbered properly as claims 70 and 71. Additionally, original claims 60-69 have been canceled.

Therefore, Applicant believes that the numbering of the claims meets the requirement of 37 C.F.R. 1.126. Upon reconsideration of the present application and entry of the proposed amendments, withdrawal of this objection is kindly requested.

**Objections to Drawings**

The examiner objects to FIG. 5 because the view number is not larger than the numbers used for reference characters. In response, Applicant submits herewith a replacement sheet for FIG. 5 addressing the objection.

Applicant believes that the replacement sheet meets the requirement of 37 C.F.R. 1.84(u)(2). Upon reconsideration of the present application and entry of the proposed amendments, withdrawal of this objection is kindly requested.

**Claim Rejections**

All pending claims 1-15, 17-41, 43-49, 70 and 71 are rejected.

Applicant proposes to amend claims 1 and 24 as shown in the Listing of Claims to place the claims in allowable form.

**Claim Rejection Under 35 U.S.C. § 103**

1. Examiner rejects claims 1, 5-7, 10, 14, 15, 18, 19, 24, 31-33, 36, 40, 41, 44, 49, 70 and 71 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent No. 4,376,675 to Perrotta ("Perrotta") in view of U.S. patent No. 4,548,628 to Miyake et al. ("Miyake").

In response, Applicant proposes to amend the independent claims 1 and 24 to recite the following limitations:

glass fibers;  
plastic-containing bonding fibers; and  
a second binder material selected from a group comprising thermoplastic binders, liquid resin binders, and powder resin binders, wherein the bonding fibers are uniformly blended together with the glass fibers and bonding at least a portion of the glass fibers together by forming bonds at points of intersection between the glass fibers and the plastic-containing bonding fibers and the air filtration media has a density of about 8 to 26 kg/m<sup>3</sup>.

The underlined text are the limitations being proposed to be added. These proposed amendments do not add any new matter and is fully supported by the disclosure of the originally filed specification. The support for the addition of second binder material can be found, for example, at paragraphs [0023] and [0032] of the specification. The support for the density range of 8 to 26 kg/m<sup>3</sup> can be found, for example, at paragraph [0058].

In contrast, in the filter tube products disclosed in Perrotta, the low-melting polymer fibers are the only binder material used and Perrotta does not disclose a second binder material. Perrotta also does not disclose the density of the filter product in the range required by the proposed amendment to claims 1 and 24.

In addition, Miyake also fails to disclose these limitations required by the proposed amendments to claims 1 and 24. Therefore, the disclosure of Miyake does not cure the deficiencies of Perrotta. Thus, Perrotta and Miyake whether taken singly or in combination do not teach or suggest the invention being claimed in the proposed amendments to claims 1 and 24.

Claims 5-7, 10, 14, 15, 18, 19 and 70 depend from proposed amended claim 1 and because claim 1 is allowable over the combination of Perrotta and Miyake, the dependent claims are also allowable over the combination of Perrotta and Miyake.

Claims 31-33, 36, 40, 41, 44, 49 and 71 depend from proposed amended claim 24 and because claim 24 is allowable over the combination of Perrotta and Miyake, the dependent claims are also allowable over the combination of Perrotta and Miyake.

2. The Examiner rejects claims 1, 5, 8-15, 17-21, 23, 24, 31, 34-41, 43-46, 48, 49, 70 and 71 under 35 U.S.C. § 103(a) as being unpatentable over U.S. published patent Application 2003/0211799 to Yao et al. ("Yao") in view of Miyake.

In response, Applicant proposes to amend the independent claims 1 and 24 as discussed above. The proposed amended claims 1 and 24 each require the following limitations: (1) that “a second binder material selected from a group comprising thermoplastic binders, liquid resin binders, and powder resin binders” be present; and (2) “the air filtration media has a density of about 8 to 26 kg/m<sup>3</sup>.”

In contrast, in the fibrous material of Yao, the binder fibers are the only binder material used and Yao does not disclose a second binder material. Furthermore, the density of the fibrous material of Yao is not in the range required by the proposed amendments to claims 1 and 24. Yao discloses a density range of 0.15-0.8 g/cm<sup>3</sup> (see Yao at paragraph [0056]) which is 150 to 800 kg/m<sup>3</sup>, substantially more dense and different than the range of 8-26 kg/m<sup>3</sup> required by the proposed amendments to claims 1 and 24.

In addition, Miyake also fails to disclose these limitations required by the proposed amendments to claims 1 and 24. Therefore, the disclosure of Miyake does not cure the deficiencies of Yao and Yao and Miyake whether taken singly or in combination do not teach or suggest the invention being claimed in the proposed amendments to claims 1 and 24.

Claims 5, 8-15, 17-21, 23 and 70 depend from proposed amended claim 1 and because claim 1 is allowable over the combination of Yao and Miyake, the dependent claims are also allowable over the combination of Yao and Miyake.

Claims 31, 34-41, 43-46, 48, 49 and 71 depend from proposed amended claim 24 and because claim 24 is allowable over the combination of Yao and Miyake, the dependent claims are also allowable over the combination of Yao and Miyake.

3. The Examiner rejects claims 1, 5-14, 17-21, 24-28, 31-40, 43, 45, 46, 49, 70 and 71 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent No. 5,580,459 to Powers et al. (“Powers”) in view of Miyake.

In response, Applicant proposes to amend the independent claims 1 and 24 as discussed above. The proposed amended claims 1 and 24 each require the following limitations: (1) that “a second binder material selected from a group comprising thermoplastic binders, liquid resin binders, and powder resin binders” be present; and (2) “the air filtration media has a density of about 8 to 26

kg/m<sup>3</sup>.”

In contrast, in the filtration structure of Powers, the bicomponent binder fibers are the only binder material used and Powers does not disclose a second binder material. Furthermore, Powers does not quantify the density of the filtration structure and thus fails to disclose the density range required by the proposed amendments to claims 1 and 24.

In addition, Miyake also fails to disclose these limitations required by the proposed amendments to claims 1 and 24. Therefore, the disclosure of Miyake does not cure the deficiencies of Powers. Thus, Powers and Miyake whether taken singly or in combination do not teach or suggest the invention being claimed in the proposed amendments to claims 1 and 24.

Claims 5-14, 17-21 and 70 depend from proposed amended claim 1 and because claim 1 is allowable over the combination of Powers and Miyake, the dependent claims are also allowable over the combination of Powers and Miyake.

Claims 25-28, 31-40, 43, 45, 46, 49 and 71 depend from proposed amended claim 24 and because claim 24 is allowable over the combination of Powers and Miyake, the dependent claims are also allowable over the combination of Powers and Miyake.

4. The Examiner rejects claims 2 and 3 under 35 U.S.C. § 103(a) as being unpatentable over Perrotta, Yao or Powers in view of Miyake, and further in view of U.S. patent No. 5,800,586 to Cusick et al. (“Cusick”). Upon reconsideration and entry of the proposed amendments to claims 1 and 24, this rejection would be moot.

As discussed above, the proposed amended claims 1 and 24 are allowable over Perrotta, Yao and Powers in combination with Miyake because those references whether taken singly or in combination do not teach or suggest at least two limitations of claims 1 and 24, (1) the use of the plastic-containing bonding fibers and a second binder material, and (2) the density of the air filtration media in the range of about 8-26 kg/m<sup>3</sup>. And Cusick does not disclose these required features of the proposed amended claims 1 and 24 either. Therefore, the disclosure of Cusick fails to cure the deficiencies of Perrotta, Yao, Powers and Miyake with respect to the proposed amendments to claims 1 and 24. Accordingly, Perrotta, Yao, Powers, Miyake and Cusick whether taken singly or in combination do not teach or suggest the invention being claimed in the proposed

amendments to claims 1 and 24. And because claims 2 and 3 depend from the proposed amended claim 1 which is allowable over Perrotta, Yao, Powers, Miyake and Cusick, claims 2 and 3 are also allowable over this combination of references.

5. The Examiner rejects claims 4 and 30 under 35 U.S.C. § 103(a) as being unpatentable over Perrotta, Yao or Powers in view of Miyake, and further in view of U.S. patent No. 6,358,871 to Sircar ("Sircar"). Upon reconsideration and entry of the proposed amendments to claims 1 and 24, this rejection would be moot.

As discussed above, the proposed amended claims 1 and 24 are allowable over Perrotta, Yao and Powers in combination with Miyake because those references whether taken singly or in combination do not teach or suggest at least two limitations of claims 1 and 24, (1) the use of the plastic-containing bonding fibers and a second binder material, and (2) the density of the air filtration media in the range of about 8-26 kg/m<sup>3</sup>. And Sircar does not disclose these required features of the proposed amended claims 1 and 24 either. Therefore, the disclosure of Sircar fails to cure the deficiencies of Perrotta, Yao, Powers and Miyake with respect to the proposed amendments to claims 1 and 24. Accordingly, Perrotta, Yao, Powers, Miyake and Sircar whether taken singly or in combination do not teach or suggest the invention being claimed in the proposed amendments to claims 1 and 24. And because claims 4 and 30 depend from the proposed amended claims 1 and 24, respectively, which are allowable over Perrotta, Yao, Powers, Miyake and Sircar, claims 4 and 30 are also allowable over this combination of references.

6. The Examiner rejects claims 22 and 47 under 35 U.S.C. § 103(a) as being unpatentable over Yao or Powers in view of Miyake, and further in view of U.S. patent No. 4,783,355 to Mueller ("Mueller"). Upon reconsideration and entry of the proposed amendments to claims 1 and 24, this rejection would be moot.

As discussed above, the proposed amended claims 1 and 24 are allowable over Yao and Powers in combination with Miyake because those references whether taken singly or in combination do not teach or suggest at least two limitations of claims 1 and 24, (1) the use of the plastic-containing bonding fibers and a second binder material, and (2) the density of the air filtration media in the range of about 8-26 kg/m<sup>3</sup>. And Mueller does not disclose these required features of the proposed amended claims 1 and 24 either. Therefore, the disclosure of Mueller fails

to cure the deficiencies of Yao, Powers and Miyake with respect to the proposed amendments to claims 1 and 24. Accordingly, Yao, Powers, Miyake and Mueller whether taken singly or in combination do not teach or suggest the invention being claimed in the proposed amendments to claims 1 and 24. And because claims 22 and 47 depend from the proposed amended claims 1 and 24, respectively, which are allowable over Yao, Powers, Miyake and Mueller, claims 22 and 47 are also allowable over this combination of references.

7. The Examiner rejects claim 29 under 35 U.S.C. § 103(a) as being unpatentable over Perrotta, Yao or Powers in view of Miyake and Cusick and U.S. patent No. 5,783,086 to Scanlon et al. ("Scanlon"). Upon reconsideration and entry of the proposed amendments to claims 1 and 24, this rejection would be moot.

As discussed above in reference to claims 2 and 3, the proposed amended claim 24 is allowable over Perrotta, Yao, Powers, Miyake and Cusick because those references whether taken singly or in combination do not teach or suggest at least two limitations of claims 1 and 24, (1) the use of the plastic-containing bonding fibers and a second binder material, and (2) the density of the air filtration media in the range of about 8-26 kg/m<sup>3</sup>. And Scanlon does not disclose these required features of the proposed amended claim 24 either. Therefore, the disclosure of Scanlon fails to cure the deficiencies of Perrotta, Yao, Powers, Miyake and Cusick with respect to the proposed amendments to claim 24. Accordingly, Perrotta, Yao, Powers, Miyake, Cusick and Scanlon whether taken singly or in combination do not teach or suggest the invention being claimed in the proposed amendments to claim 24. And because claim 29 depends from the proposed amended claim 24 which is allowable over Perrotta, Yao, Powers, Miyake, Cusick and Scanlon, claim 29 is also allowable over this combination of references.

### CONCLUSION

All amendments being proposed herein are fully supported by the disclosure of the specification as originally filed and no new matter is presented. Applicant believes that the proposed amendments place the claims in condition for allowance as they are distinguishable over the prior art of record. Reconsideration of the present application, entry of the proposed amendments to the pending claims and their allowance are kindly requested.

Should the Examiner not agree with Applicant's position, a telephone interview is

respectfully requested to discuss any remaining issues and expedite the eventual allowance of the application.

No fee is believed due for the filing of this paper.

Respectfully submitted,

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